IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A propylene polymer ~~of which the heat of fusion ΔH~~ ~~(J/g) and the melting point Tm (°C) measured through differential scanning calorimetry~~ ~~satisfy the following relationship: ΔH ≥ 0.45 × Tm + 22~~ which satisfies the following requirements (1) to (4):

(1) ΔH ≥0.45 Tm + 22, wherein ΔH is a heat of fusion (J/g) and Tm is a melting point (°C) measured through differential scanning calorimetry;

(2) 110 ≤Tm ≤140, wherein Tm is the melting point;

(3) Th ≤5, wherein Th is a half-value width (°C) of the peak top of its elution curve, the elution curve being obtained in programmed temperature fractionation where a sample solution in o-dichlorobenzene is fractionated by raising the temperature from 0°C to 135°C at a heating rate of 40°C/hr; and

(4) an intrinsic viscosity [η] of 0.5 to dl/g when measured in a solvent of tetralin at 135°C.

Claims 2-11 (Cancelled).

Claim 12 (Previously Presented): The propylene polymer as claimed in claim 1, which is a propylene homopolymer having an isotactic pentad fraction (mmmm) of from 65 to 85 mol%.

Claim 13 (Previously Presented): The propylene polymer as claimed in claim 1, which is a propylene homopolymer having an isotactic pentad fraction (mmmm) of from 70 to 80 mol%.

Claim 14 (Previously Presented): A molding obtained by molding the propylene polymer of claim 1.

Claim 15 (Currently Amended): A method for producing the propylene polymer of claim 1, which comprises polymerizing propylene or propylene with ethylene and/or an α-olefin having from 4 to 20 carbon atoms, in the presence of an olefin polymerization catalyst that contains (A) a transition metal compound of the Group 4 of the Periodic Table represented by the following general formula (1), and (B) at least one compound selected from the group consisting of (B-1) aluminiumoxy compounds and (B-2) ionic compounds, the ionic compounds being capable of reacting with the transition metal compound to give cations:

(1)
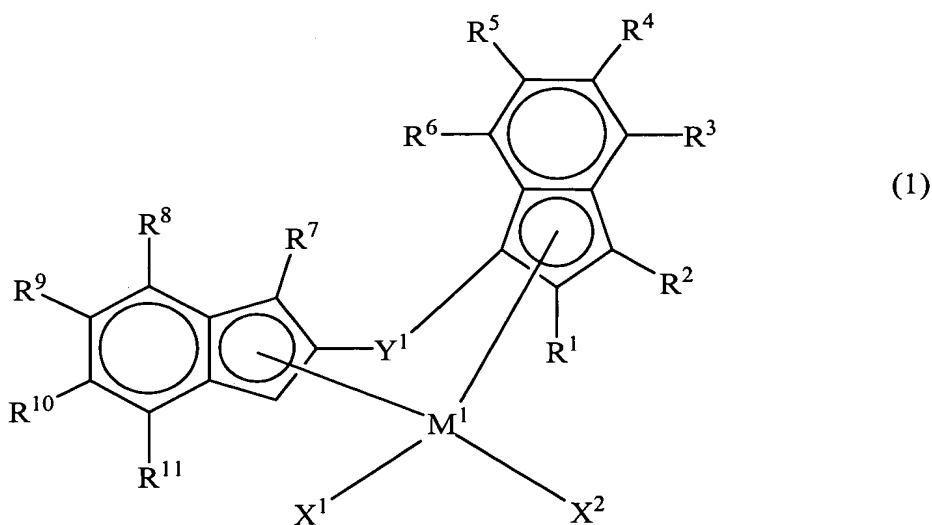
wherein ~~R^1 to R^{11}~~ R^8 and R^{11} are each hydrogen, R^1 to R^7, R^9 to R^{10}, and X^1 and X^2 each

independently represent a hydrogen atom, a halogen atom, a hydrocarbon group having from

1 to 20 carbon atoms, a halogen-containing hydrocarbon group having from 1 to 20 carbon

atoms, a silicon-containing group, an oxygen- containing group, a sulfur-containing group, a

nitrogen-containing group, or a phosphorus- containing group; R^3 and R^4, and R^8 and R^9 may

be bonded to each other to form a ring; Y^1 is a is a divalent ~~crosslinking~~ bridging group that

~~crosslinks~~ bridges the two ligands, representing any of a hydrocarbon group having from 1 to

20 carbon atoms, a halogen-containing hydrocarbon group having from 1 to 20 carbon atoms,

a silicon-containing group, a germanium-containing group, a tin-containing group, -O-, -CO-,

-S-, -SO2-, -NR^{12}-, -PR^{12}-, -P(O)R^{12}-, -BR^{12}- or -AlR^{12}-; R^{12} represents a hydrogen atom, a

halogen atom, a hydrocarbon group having from 1 to 20 carbon atoms, or a halogen-

containing hydrocarbon group having from 1 to 20 carbon atoms; M^1 represents titanium,

zirconium or hafnium.

Claim 16 (Currently Amended): A method for producing the propylene polymer of

claim 1, which comprises polymerizing propylene or propylene with ethylene and/or an α-

olefin having from 4 to 20 carbon atoms, in the presence of an olefin polymerization catalyst

that contains (A) a transition metal compound of the Group 4 of the Periodic Table

represented by the following general formula (2), and (B) at least one compound selected

from the group consisting of (B-1) aluminiumoxy compounds and (B-2) ionic compounds,

the ionic compounds being capable of reacting with the transition metal compound to give

cations:

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$$A^1 \diagdown\!\!\!\!\diagdown E^1 \diagdown\!\!\!\!\diagup M^1 X_q^3 Y_r^2 \quad \ldots \quad (2)$$
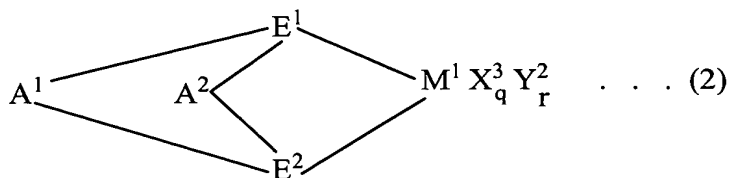
wherein M^1 represents titanium, zirconium or hafnium; E^1 and E^2 each are a ligand selected from a cyclopentadienyl group, a substituted cyclopentadienyl group, an indenyl group, a substituted indenyl group, a heterocyclopentadienyl group, a substituted heterocyclopentadienyl group, an amido group, a phosphido group, a hydrocarbon group and a silicon-containing group, and they form a crosslinked structure via A^1 and A^2, and they may be the same or different; X^3 represents a σ-bonding ligand, and a plurality of X^3's, if any, may be the same or different, and it may be crosslinked with other X^3, E^1, E^2 or Y^2; Y^2 represents a Lewis base, and a plurality of Y^2's, if any, may be the same or different, and it may be crosslinked with other Y^2, E^1, E^2 or X^3; A^1 and A^2 each are a divalent crosslinking group that crosslinks the two ligands, representing any of a hydrocarbon group having from 1 to 20 carbon atoms, a halogen-containing hydrocarbon group having from 1 to 20 carbon atoms, a silicon-containing group, a germanium-containing group, a tin-containing group, -O-, -CO-, - S-, -SO₂-, -NR¹²-, -PR¹²-, -P(O)R¹²-, -BR¹²- or -AlR¹²-; R^{12} represents a hydrogen atom, a halogen atom, a hydrocarbon group having from 1 to 20 carbon atoms, or a halogen- containing hydrocarbon group having from 1 to 20 carbon atoms; and A^1 and A^2 may be the same or different; q is an integer of from 1 to 5, indicating ((valence of M^1) -2); and r is an integer of from 0 to 3.

Claim 17 (Previously Presented): The method for producing the propylene polymer as claimed in claim 15, wherein propylene or propylene with ethylene and/or an α-olefin having from 4 to 20 carbon atoms is polymerized in a vapor phase.

Claim 18 (Previously Presented): The method for producing the propylene polymer as claimed in claim 15, wherein propylene or propylene with ethylene and/or an α-olefin having from 4 to 20 carbon atoms is polymerized in the presence of liquid propylene.